

ABSTRACT OF THE DISCLOSURE

A cell that secretes enantiomerically pure R- α -lipoic acid into a culture medium is described. The cell has exhibits lipoyl protein ligase B activity which is elevated as compared with the lipoyl protein ligase B activity of a wild-type strain. Moreover, the cell also exhibits a lipoylatable polypeptide concentration that is elevated as compared to the lipoylatable polypeptide concentration of the wild-type strain. A related plasmid and methods of preparing and using the cells are provided.